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EXAMINER

ROSARIO, DENNIS

ART UNIT PAPER NUMBER

2621

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/982,008

Applicant(s)

YAMADA ET AL

Examiner

Dennis Rosario

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amt. July 13, 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment was received on July 13, 2005. Claims 1-23 are pending.

Allowable Subject Matter

2. The indicated allowability of claims 2-5,7,13,14,21 and 22 is withdrawn in view of the newly discovered reference(s) to Knee et al. (WO 00/22831) and Sugiyama (US Patent 6,741,793 B1). Rejections based on the newly cited reference(s) follow. Note that the amendments to claims 1 and 10 also change the scope and meaning of these dependent claims and now make these claims unpatentable over the prior art and a basis for finality.

Claim Rejections - 35 USC § 112

3. Due to the amendment of claims 7 and 16, the 112 rejection of claims 7,16 and 23 is withdrawn.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Knee et al. (WO 00/22831).

Regarding claim 1, Knee et al. discloses an apparatus for re-coding an image signal, which conducts re-coding processing using a decoded image signal subjected to coding processing as an input image signal, comprising:

- a) a DCT unit (Fig. 4,num. 402) for subjecting the input image signal (fig. 4, label: "Video in) to a discrete cosine transform (DCT);
- b) a DCT coefficient counter (fig. 4,num. 404) for counting a feature amount on a picture basis using an unquantized DCT coefficient output from said DCT unit (Fig. 4 does not have any quantizers; thus, the output of fig. 4,num. 402 is unquantized.);
- c) a picture type detector (Fig. 4 and in fig. 2,num. 202) for detecting a picture type (As indicated on the output of fig. 4) in coding processing in a previous stage (fig. 1), using the feature amount output from said DCT coefficient counter (output of fig. 4,num. 404 is the feature amount.);
- d) a coding control portion (fig. 2,num. 204) for determining coding parameters in re-coding (fig. 2,num. 206) in accordance with detection results (Output of fig. 2,num. 202 and fig. 4) of said picture type detector (Fig. 4 and fig. 2,num. 202); and
- e) a coding portion (fig. 2,num. 206) for conducting re-coding processing, using the coding parameters (inputs via label: Information Bus (picture type only)) determined by said coding control portion (fig. 2,num. 204).

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Regarding claim 10, Knee et al. discloses a method for recoding a previously encoded image signal using a decoded image signal as input, comprising:

- a) transforming (fig. 4, num. 402) the decoded image signal (Fig. 4, label: "Video in");
- b) counting features (Fig. 4, num, 404) within the transformed decoded image (output of fig. 4,num. 402) on a picture basis (video);
- c) detecting a picture type (fig. 4,num. 408 and fig. 2, num. 202) of the encoded image signal (fig. 4, label: "Video in") associated with the previous encoding (fig. 1) based upon the counted features (The output of fig. 4 is the counted features.);
- d) determining parameters (fig. 2,num. 204 determines parameters or "coding information" in page 3, line 13.) for re-coding (Fig. 2,num. 206 recodes with respect to fig. 1,num. 102.); and
- e) recoding (fig. 2,num. 206) the decoded image signal based upon the determining.

Regarding claim 11, Knee et al. discloses the method according to claim 10, further comprising:

- a) detecting at least two of three kinds of picture types of an intra-frame picture, a forward inter-frame predictive coding picture, and a bi-directional inter-frame predictive coding picture (Knee et al. discloses this limitation in page 6, line 21 where a sequence of various picture types "I,B,B,P,B,B,I or I,B,P,B,P,B,I" are detected or "deduc[ed]" in page 6, line 27. Where the sequence of I,B,B,P corresponds to at least two (B,B) of three kinds of picture types (I,B,P).

Regarding claim 12, Knee et al. teaches the method according to claim 10, further comprising:

a) counting a sum of absolute values (Fig. 3 shows a graph of frames vs. count number) over a region of transformed image coefficients ("coefficients of... blocks" in page 3, line 26); and

b) detecting a picture type (Fig. 2, num. 204) in accordance with variations with time (or frame number where each frame number corresponds to a time that each frame is displayed.) of the sum (Fig. 4 has a sum operation.) of absolute values ("zero coefficients" note that zero in the broadest interpretation is an absolute value, because the zero does not have a plus/negative sign,).

Regarding claim 13, Knee et al. discloses the method according to claim 12, further comprising:

a) detecting an intra-frame coding picture (Fig. 2,num. 202) by determining whether the sum of absolute values in a first specified region (Fig. 3, label: "Frames" number 14 that is a region represented on the horizontal axis of figure 3.) is smaller than those of previous and subsequent pictures (because it has the smallest count that is represented on the vertical axis of fig. 3.).

Claim 14 is rejected the same as claim 13. Thus, argument similar to that presented above for claim 13 is equally applicable to claim 14.

Claim 15 is rejected the same as claim 13. Thus, argument similar to that presented above for claim 13 is equally applicable to claims 15 except for the limitation of "previously set threshold values" which is disclosed by Knee et al. as shown in fig. 3, label A which represents a threshold as mentioned in page 6, line 4.

Claims 16 is rejected the same as claim 13. Thus, argument similar to that presented above for claim 13 is equally applicable to claim 16.

Claim 17 is rejected the same as claim 10, paragraph d). Thus, argument similar to that presented above for claim 10, paragraph d) is equally applicable to claim 17.

Regarding claim 18, Knee et al. discloses the method according to claim 10, further comprising:

a) determining ("estimate" in page 2, line 27) coding parameters ("coding parameters" in page 2, line 28) using an intended coding amount (or "as many" in page 2, line 27) set in accordance with the detected picture type (or "decoded video signal" in page 2, line 28 which corresponds to "picture type" in page 3, line 2).

Regarding claim 19 see figure 4,num. 402.

Regarding claim 20, Knee et al. discloses the method according to claim 12, wherein the transformed image coefficients are DCT coefficients (as shown by the output of fig. 4, num. 402) and further wherein the region (or frame) is a frequency region (The frame is a frequency region due to the inherent nature of the DCT as one of ordinary skill in the art would understand.).

Claims 2-9 are rejected the same as claims 11-18, respectively. Thus, argument similar to that presented above for claims 11-18 are equally applicable to claims 2-9.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knee et al. (WO 00/22831) in view of Sugiyama (US Patent 6,741,793 B1).

Regarding claim 21, Knee et al. does not teach the claimed limitation of a "high-frequency region." However, Knee et al. does teach using a DCT in the context of the "MPEG-2 standard" in page 3, lines 22-28, which suggests to one of ordinary skill in the art to learn details and conform to the MPEG-2 standard.

Sugiyama does teach details of the "MPEG2 standard" in col. 13, line 13 as suggested by Knee et al. and claim 21 wherein transformed image coefficients are DCT coefficients (as shown in fig. 8A) and further wherein a first specified region is a high-frequency region ("higher frequency components" in col. 13, line 21).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Knee et al.'s teaching of counting coefficients of a frame of fig. 3 with Sugiyama's teaching of fig. 8A to "correspond[] to the MPEG2 standard" in col. 13, lines 12,13.

Regarding claim 22 see col. 13, line 11: "DC component."

Claim 23 is rejected the same as claim 21. Thus, argument similar to that presented above for claim 21 is equally applicable to claim 23.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chang et al. (US Patent 6,735,253 B1) is pertinent as teaching a method of counting as show in fig. 2,num.222 in order to determine a picture type as shown in fig. 2, num. 231.

9. Applicant's amendment of claims 1 and 10 necessitated the new ground(s) of rejection presented in this Office action.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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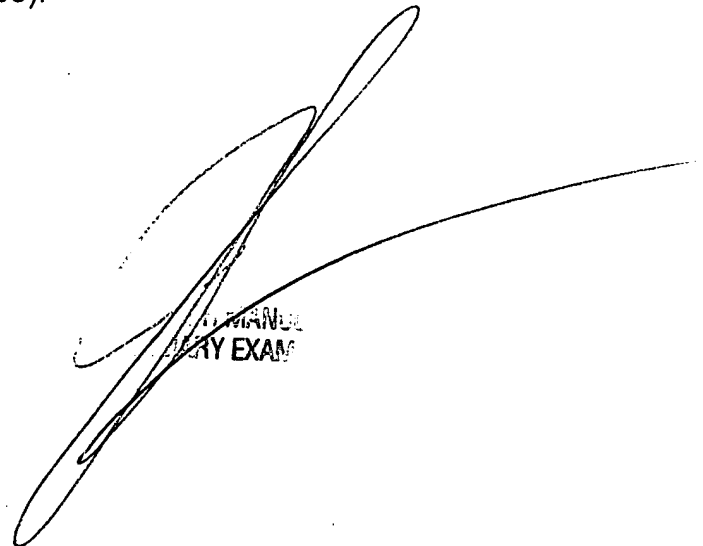
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Rosario whose telephone number is (571) 272-7397. The examiner can normally be reached on 6-3.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on (571) 272-7695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dennis Rosario Unit 2621

DR



UNIT 2621
D. ROSARIO
EXAMINER